

MATERIAL SAFETY DATA SHEET

Conforms to 93/112/EC and ISO 11014-1

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Histo-Clear**

PRODUCT NUMBER: HS-200

CHEMICAL NAMES/ DESCRIPTION: Distilled essential oils - food grade

MANUFACTURER: National Diagnostics, Inc.
305 Patton Drive
Atlanta, GA 30336

TELEPHONE NUMBER:
(800) 526-3867
(404) 699-2121

EMERGENCY NUMBER:
CHEMTREC (800) 424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	% Comp	CAS #	EINECS #	TLV (units)
d-limonene	95-100%	5989-27-5	227-813-5	

EEC LABEL SYMBOL AND CLASSIFICATION



IRRITANT



R: 10-38-43-50/53

Flammable. Irritating to skin. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S: 2-24-37-60-61

Keep out of the reach of children. Avoid contact with skin. Wear suitable non-latex gloves. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/Safety data sheets.

3. HAZARDS IDENTIFICATION

APPEARANCE AND ODOR: Colorless, mobile liquid with citrus odor

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

COMBUSTIBLE LIQUID. ALL MATERIALS IN THIS PRODUCT ARE GRAS (GENERALLY REGARDED AS SAFE). HOWEVER, THIS PRODUCT MAY BE HARMFUL IF SWALLOWED IN SUFFICIENT VOLUME. INGESTION MAY CAUSE VOMITING, HEADACHE, AND OTHER MEDICAL PROBLEMS. THIS PRODUCT MAY BE IRRITATING TO SKIN AND EYES. INHALATION CAN CAUSE NOSE, THROAT, AND RESPIRATORY TRACT IRRITATION, COUGHING AND HEADACHE. EXTREMELY OLD OR IMPROPERLY STORED PRODUCT MAY BEGIN TO ACCUMULATE POTENTIALLY SENSITIZING BREAK-DOWN PRODUCTS.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

PROLONGED OR REPEATED EXPOSURE CAN CAUSE DRYING, DEFATTING AND DERMATITIS OF SKIN.

POTENTIAL HEALTH EFFECTS

INHALATION

Inhalation can cause nose, throat, and respiratory tract irritation. Prolonged exposure to high vapor or mist concentrations may cause dizziness, headaches, and nasal irritation.

INGESTION

Ingestion may cause vomiting, headache, and other medical problems.

SKIN

Repeated or prolonged contact can cause redness, irritation, and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.

EYES

Eye irritation may occur with exposure to concentrated vapors or contact with product.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

INHALATION

May include dizziness, headaches, and nasal irritation.

INGESTION

May include nausea, vomiting, and headache.

SKIN

May include drying and redness (dermatitis) of the skin.

EYES

May include redness, itching, and watering of the eyes.

CARCINOGENICITY

None of the components of this material are listed by NTP, OSHA, ACGIH, or IARC as a carcinogen or a suspected carcinogen.

MUTAGENICITY

No information available.

REPRODUCTIVE TOXICITY

No information available.

TERATOGENIC EFFECTS

No information available.

ROUTES OF ENTRY

May be absorbed through the skin, by inhalation, or by ingestion.

TARGET ORGAN STATEMENT

No information available.

4. FIRST AID MEASURES

INHALATION:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

INGESTION:

Do not induce vomiting. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

SKIN:

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

EYES:

Remove contact lenses at once. Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. FIRE FIGHTING MEASURES

FLASH POINT: 49 C

FLAMMABLE LIMITS: L.E.L 0.7%; U.E.L. 6.1%

FLASH POINT METHOD: TCC

AUTOIGNITION TEMPERATURE: not available

EXTINGUISHING MEDIA

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

PROTECTIVE EQUIPMENT

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products may include carbon monoxide, carbon dioxide, and hydrocarbons.

UNUSUAL FIRE AND EXPLOSION HAZARDS

None known to National Diagnostics.

NFPA CODES: Health: 1 Flammability: 2 Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly.

WASTE DISPOSAL METHOD

Disposal must be made in accordance with applicable federal, state, and local regulations.

PERSONAL PRECAUTIONS

Wear appropriate protective equipment as specified in section 8.

7. HANDLING AND STORAGE**HANDLING**

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

STORAGE

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials.

STORAGE TEMPERATURE: 20 C

DISPOSAL

Observe all national, state, and local regulations regarding disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**AIRBORNE EXPOSURE LIMITS:**

Component: d-limonene

ACGIH Threshold Limit Value (TLV):

OSHA Permissible Exposure Limit (PEL):

ENGINEERING CONTROLS

Local exhaust should be adequate.

RESPIRATORY PROTECTION

Not expected to require personal respirator usage, but if vapor concentration becomes high, use approved self-contained air mask.

EYE PROTECTION

Safety glasses.

SKIN PROTECTION

Wear protective gloves and clean body covering clothing.

OTHER CONTROL MEASURES

N.A.

9. PHYSICAL PROPERTIES

Boiling Point	355 F (179 C)	Evaporation Rate	N.A.
Melting Point	N.A.	Solubility in Water	Insoluble
Vapor Pressure mm Hg	6.0 mm HG @ 25 C	pH	N.A.
Vapor Density Air = 1	4.94 (air = 1)	Specific Gravity (H2O = 1)	0.85 @ 25 C
% Volatile by Volume	100		

10. STABILITY AND REACTIVITY**STABILITY**

Stable under normal conditions of use. Incompatible with strong oxidizing agents.

CONDITIONS TO AVOID

Heat, sources of ignition.

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon monoxide and unidentified organic compounds may be formed during combustion.

HAZARDOUS POLYMERIZATION

Will not occur

INCOMPATIBLES

Avoid contact with strong acids, alkalis, or oxidizing agents.

11. TOXICOLOGICAL INFORMATION**PRODUCT LD50 VALUES**

Histo-Clear	Oral Rat LD50 (mg/kg):	GRAS (Generally Regarded As Safe)
Histo-Clear	Dermal Rabbit LD50 (mg/kg):	GRAS (Generally Regarded As Safe)

COMPONENT CANCER LIST STATUS

Component	NTP Carcinogen		IARC Category
	Known	Anticipated	
d-limonene	No	No	None

12. ECOLOGICAL INFORMATION

No information available on the ecological fate of this material.

13. DISPOSAL CONSIDERATIONS

Observe all national, state, and local regulations regarding disposal.

14. TRANSPORT INFORMATION**D.O.T.**

Proper Shipping Name: Terpene Hydrocarbons, N.O.S. (limonene)

Hazard Class: 3

UN Number: 2319

Packing Group: III

I.A.T.A.

Proper Shipping Name: Terpene Hydrocarbons, N.O.S. (limonene)

Hazard Class: 3

UN Number: 2319

Packing Group: III

I.M.O.

Proper Shipping Name: Terpene Hydrocarbons, N.O.S. (limonene)

Hazard Class: 3

UN Number: 2319

Packing Group: III

Marine Pollutant

15. REGULATORY INFORMATION

UNITED STATES

TSCA Regulatory:

All intentional ingredients are listed on the TSCA Inventory.

SARA 311/312 Hazard Categories

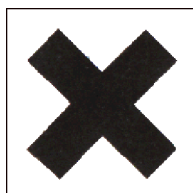
Component	Fire	Pressure	Reactivity	Acute	Chronic
d-limonene	Yes	No	No	Yes	No

EUROPE

EEC Regulatory:

All intentional ingredients are listed on the European EINECS Inventory.

EEC LABEL SYMBOL AND CLASSIFICATION



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16. OTHER INFORMATION

NFPA CODES: Health: 1 Flammability: 2 Reactivity: 0

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.